



LINKING ENVIRONMENTAL and ACADEMIC PROGRAMS
Watershed Restoration, Environmental Results, Career Development, Stewardship

MEMORANDUM OF UNDERSTANDING

BETWEEN

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
MID-ATLANTIC REGION**

AND

UNIVERSITY OF MARYLAND EASTERN SHORE

AND

MARYLAND COASTAL BAYS PROGRAM

AND

MARYLAND DEPARTMENT OF NATURAL RESOURCES

AND

MARYLAND DEPARTMENT OF THE ENVIRONMENT

**MEMORANDUM OF UNDERSTANDING
TABLE OF CONTENTS**

I.	Purpose and Goals	3
II.	Objectives	3
III.	Implementation	
	a. Objective 1 - Support and promote student recruitment, internships, career development and employment	4
	b. Objective 2 -Enhance faculty professional development	5
	c. Objective 3 -Support the development of an Environmental Center at UMES for research and education activities	5
	d. Objective 4 -Enhance public, private and non-profit partnerships for environmental initiatives, outreach, monitoring and student career development	6
	e. Objective 5 – Support watershed restoration activities in the Maryland Coastal Bays watershed	7
IV.	Institutional Profiles	
	a. United States Environmental Protection Agency	8
	b. University of Maryland Eastern Shore	8
	c. Maryland Coastal Bays Program	9
	d. Maryland Department of Natural Resources	10
	e. Maryland Department of the Environment	10
V.	Costs.....	11
VI.	General Provisions.....	11
VII.	Renewal, Amendment, Termination and Communication	12

Purpose and Goals

The purpose and goals of this Memorandum of Understanding (MOU) are to formalize and strengthen the ties between the Mid-Atlantic Region of the Environmental Protection Agency (EPA), the University of Maryland Eastern Shore (UMES), the Maryland Coastal Bays Program (MCBP), and the Maryland Department of Natural Resources (MDNR), and the Maryland Department of the Environment (MDE), hereinafter referred to as “the Partners,” to enhance research, teaching, outreach, career development and stewardship in environmental sciences to promote:

- A seamless pipeline to bring environmentally literate and technologically capable candidates to the workforce.
- Increase the number of minorities with careers in environmental science and related fields.
- Restoration of the Maryland Coastal Bays.
- An environmental stewardship ethic in students at all educational levels.
- Sound ecological research relevant to the Maryland Coastal Bays.
- The watershed restoration goals of the Maryland Coastal Bays Program

Objectives

The objectives of this MOU are to:

1. Support and promote student recruitment, internships, career development and employment in environmental science and related fields.
2. Enhance faculty professional development opportunities in environmental science and related fields.
3. Support the development of an Environmental Center at UMES for research and education activities.
4. Enhance public, private and non-profit partnerships for environmental initiatives and student career development.
5. Support watershed restoration activities in the Maryland Coastal Bays watershed.

Implementation

Objective 1 - Support and promote student recruitment, internships, career development and employment in environmental science and related fields.

- UMES will work with their students to promote the well-established intern programs at EPA, MDNR and MDE to identify, coordinate and place students at the MCBP program office and at these agencies.
- EPA, at its discretion, may provide opportunities where authorized, and to the extent possible for intern positions for students. MDNR and MDE will provide opportunities where authorized, and to the extent possible for intern positions for students, including those provided under Maryland Senate Bill 350, *Task Force on Minority Participation in the Environmental Community*.
- UMES will publicize internship opportunities and provide students with information about EPA, MCBP, MDNR and MDE.
- EPA, MDE and MDNR will endeavor to participate in UMES job fairs.
- EPA, MCBP, MDNR and MDE will endeavor to participate in department seminars and workshops sponsored by UMES for the purpose of generating interest, and creating a forum for publicizing the partners' missions and messages.
- EPA, at its discretion, may assist UMES in upgrading its laboratory facilities and other technical resources through donations of surplus laboratory, computer and field equipment where authorized and when available in accordance with applicable laws, policies, and regulations.
- UMES may provide visiting faculty appointments to the Partners' scientific and technical staff on collaborative research efforts and related programs. EPA may grant visiting scientist status to UMES faculty at their analytical facilities, such as the Environmental Science Center in Fort Meade, MD where authorized and when available.
- UMES will deliver the following services directly to students:
 - Job readiness skills training
 - Career education, exposure information, and counseling
 - Orientation to post-secondary education and training options
 - Development of employment opportunities
 - Job placement
 - Counseling for working students
 - Upward Bound Program for lower Eastern Shore high school students.

- UMES will provide the other Partners with access to students enrolled in the School of Agricultural and Natural Sciences for the purpose of informing the students of post-secondary education and career opportunities, specifically relating to environmental science and technology.
- UMES will coordinate Agriculture and Natural Sciences Departmental meetings with the relevant Partners for the purpose of strengthening the environmental curriculum at UMES.
- MCBP will coordinate with UMES and its Upward Bound Program to provide student participants with environmental science-based field and laboratory training and hands on experience at the UMES Coastal Ecology Teaching and Research Center on Chincoteague Bay.
- The Partners, where authorized and when available, will endeavor to support and participate in education and training programs by:
 - Hosting mock interviews
 - Hosting field trips/tours
 - Participating in career days
 - Providing staff development and training for faculty
 - Attending awards assemblies
 - Providing classroom speakers

Objective 2 - Enhance faculty professional development in environmental science and related fields.

- EPA may provide summer Faculty Fellowship opportunities for UMES faculty to work with their technical staff and to gain first-hand knowledge and experience in various environmental protection activities.
- EPA through the Intergovernmental Personnel Act (IPA) program may provide experts to work with UMES faculty in developing programs in teaching, research and engagement in Environmental Science areas.
- The Partners will endeavor to work with UMES to arrange short-term, intensive orientation workshops for UMES faculty on environmental issues, particularly including those related to the Maryland Coastal Bay.
- EPA, MCBP, MDNR and MDE may collaborate with UMES to provide staff executive development workshops, seminars, and training.

Objective 3 - Support the development of an Environmental Center at UMES for research and education activities

- UMES will encourage and support its faculty and students to visit classrooms to

speak to high school students.

- UMES will set up tours for K-12 students at UMES' Environmental Science facilities including the Coastal Ecology Teaching and Research Center on Chincoteague Bay.
- EPA, MCBP, MDNR and MDE will endeavor to work with UMES to identify opportunities to develop research and related activities in the Maryland Coastal Bays, the Chesapeake Bay and other watersheds in Maryland.
- UMES, MDNR and MDE will work to develop an Environmental Center at UMES under the authority of Maryland Senate Bill 350, *Task Force on Minority Participation in the Environmental Community*. The purpose of an Environmental Center at UMES is to disseminate information about careers in the environmental arena, implement environmental education and restoration projects for faculty and student research, provide opportunities for students to participate in the environmental field, such as student internships with governmental or non profit organizations, and encourage student participation in community outreach and development.
- The Partners will endeavor to support the development of research projects that incorporate science, education and outreach components and address coastal zone restoration ecology, aquaculture/fish diseases, aquatic ecosystem ecology and other emerging issues as approaches to measuring effectiveness of watershed management and the socioeconomics of coastal zone resources.
- To the extent possible and where authorized, the Partners will endeavor to collaborate in developing an environmental awareness educational kit and environmental awareness workshops for community/voluntary organizations, science and middle school teachers, and/or high school students.
- UMES and MCBP will act as outlets for community outreach program activities under this MOU. These activities may include: teacher training, promotional materials, continuing education courses, outreach to schools, depository references/resources for local communities, and an on-going topical display on environmental issues in the lower Eastern Shore of Maryland.

Objective 4 - Enhance public, private and non-profit partnerships for environmental initiatives, outreach, monitoring and student career development

- Along with other parties, the Partners, where authorized, will endeavor to participate in the Maryland Coastal Bays Program Minority Outreach and Involvement Steering Committee.
- The Partners will endeavor to work with the other members of the Steering

Committee to identify and develop environmental and related internships and career path opportunities within the private sector (e.g., manufacturing, engineering and consulting), and other government agencies (e.g., National Oceanographic and Atmospheric Administration, U.S. Department of the Interior).

- The Partners in collaboration with the other members of the Steering Committee will endeavor to recommend changes and enhancements to current UMES curricula in order to support environmental and related career path development in the private sector as needed.
- The Partners will endeavor to work with government sponsored and other volunteer organizations, such as the Retired and Senior Volunteer Program (RSVP), Volunteers in Service to America (VISTA), and the Upward Bound Program to enhance environmental stewardship, outreach, monitoring and training opportunities in the lower Eastern Shore region of Maryland.

Objective 5 - Support watershed restoration activities in the Maryland Coastal Bays watershed

- To the extent allowed by law, regulation and program policy the Partners may support restoration projects in the Maryland Coastal Bays watershed leading to the improvement of habitats, living resources and water quality.
- Where practicable, and to the extent allowed by law, regulation, program policy and the terms of the relevant legal instrument, restoration projects funded or administered by the Partners will include an outreach and education component, including but not limited to school students in the watershed, UMES students, and the local community where the projects take place.
- Wherever possible, and to the extent allowed by law, regulation, program policy, and the terms of the relevant legal instrument, restoration projects funded by the Partners will include quantitative outputs and outcomes relating to improvements to habitats, water quality (i.e. reductions in nonpoint source loadings), and living resources.
- Volunteer organizations such as the Retired and Senior Volunteer Program (RSVP) and Volunteers in Service to America (VISTA) may be encouraged to participate in watershed restoration projects where practicable and authorized by law, regulation and/or policy.

Institutional Profiles

United States Environmental Protection Agency

In addition to its regulatory and enforcement functions, EPA is an environmental science agency with responsibility for conducting environmental research and providing support to the academic environmental research community. In carrying out its mission EPA has created opportunities for young researchers and students to prepare for and enter into environmentally-related careers. EPA began a sustained effort in 1981 to increase the involvement and participation of scientists and researchers in minority institutions in the Agency's environmental and scientific programs. In responding to these needs, EPA has established a number of partnerships and cooperative ventures with several minority academic institutions.

When President Bush signed into law the "No Child Left Behind Act of 2001," he committed to educating America's students. President Bush has committed to go beyond elementary and secondary schools by expanding support to higher education institutions servicing large numbers of minority students. In February 2002, President Bush signed Executive Order 13256 aimed at strengthening the capacity of Historically Black Colleges and Universities (HBCUs) to provide the highest quality education, and increasing opportunities for HBCUs to participate in and benefit from Federal programs. The furtherance of the goals and ideals stated in this executive order provides the foundation for this MOU between EPA, the University of Maryland Eastern Shore, the Maryland Coastal Bays Program, the Maryland Department of Natural Resources and the Maryland Department of the Environment.

University of Maryland Eastern Shore

Founded in 1886 as the Delaware Conference Academy, the school became the University of Maryland Eastern Shore in 1979. It is a well respected historically black institution that is committed to its tripartite mission of providing distinctive learning, discovery, and engagement opportunities in teacher education, agriculture, marine and environmental sciences, technology, health professions, hospitality management, and engineering and aviation sciences and of being one of two Maryland land-grant institutions. The University of Maryland Eastern Shore is also a comprehensive teaching/research institution offering degrees at the bachelors, masters, and doctoral levels.

The Department of Natural Sciences offers programs for students majoring in Biology, Chemistry, Environmental Science and Marine Science and minors in Biology, Chemistry and Physics.

The Department offers courses leading to M.S. and Ph.D. degrees in the University System of Maryland graduate programs in Marine-Estuarine-Environmental Sciences and Toxicology. In cooperation with The University Center for Environmental and Estuarine Studies, combined 4-year B.S./5-year M.S. programs in Sciences and

Environmental Chemistry are available.

The Department also provides courses which satisfy the general education requirements in the biological and physical sciences and supporting courses for students in other departments. Included in the latter groups are courses in Biology, Chemistry and Physics required for majors in Agriculture, Human Ecology, Industrial Arts Education, Construction Management/Technology and Physical Education.

UMES has completed construction of its state-of-the-art 10,000 square foot Coastal Ecology Teaching and Research Laboratory (CETRL) located on Sinepuxent Bay near Assateague Island. The laboratory will serve as a focal point for ecological research in the Coastal Bays, advanced training of K-16 and graduate students, and community outreach. This facility is equipped with three laboratories, including a wet lab, an auditorium, offices and space for library facilities.

UMES is the lead institution in the Living Marine Resources Cooperative Science Center (LMRCSC), a National Oceanographic and Atmospheric Administration funded consortium of six institutions dedicated to conducting collaborative marine science and fisheries research and training undergraduate and graduate students for careers in NOAA and other agencies. These six institutions are linked via the "Virtual Campus", an interactive video network designed for distance learning and for sharing research ideas. The LMRCSC currently supports 78 BS, 28 MS and 9 PhD students and conducts 20 collaborative research projects per year.

Maryland Coastal Bays Program

The Maryland Coastal Bays Program National Estuary Program (NEP) is one of 28 NEPs across the country that receives EPA funding in order to work toward the restoration and protection of "estuaries of National significance." The Program is a grassroots, multi-stakeholder collaboration working toward meeting this goal. The Maryland Coastal Bays watershed is an impressive coastal resource. It supports abundant wildlife and a wealth of aquatic resources in a relaxing rural atmosphere unique to the mid-Atlantic region. Here, residents and tourists alike enjoy fishing, hunting, boating, sunbathing, and the natural serenity offered by the sea. As one of the most ecologically diverse regions in the state, the collective watershed of these bays encompasses approximately 175 square miles of Maryland's coastal plain. It supports numerous rare and threatened plant and animal species, forests and wetlands vital to migratory songbirds and waterfowl, and numerous important commercial and recreational fin and shellfish species. This region also is experiencing the most rapid population increases in the entire state. A countywide population of some 40,000 is expected to almost double by the year 2020.

Currently, approximately twenty percent of Worcester County's population is made up of minorities, yet minority participation in the Coastal Bays Program is virtually nonexistent. The Program has stated a goal of fostering a community consensus, inclusive of all, on the desired future condition of the Maryland Coastal Bays watershed, a goal that is

unachievable with one-fifth of the population under-represented in the Program. The challenge is to expand outreach and education efforts to specifically include minority populations of the coastal bays watershed by incorporating a proactive approach of informing citizens on how to participate in program activities.

In an effort to increase the involvement of low-income, minority, and non-English speaking populations in environmental careers, Coastal Bays Minority Outreach Steering Committee members will work closely with local schools, community colleges, and universities to recruit minorities, and develop internships and environmental education opportunities.

Maryland Department of Natural Resources

The Maryland Department of Natural Resources is the state agency which oversees the management and wise use of the living and natural resources of the Chesapeake and Coastal Bays and their tributaries. The resources of the Maryland portion of the watershed include its state forests and parks, fisheries, wildlife and the recreation of citizens engaged in boating, fishing, hunting and other outdoor enjoyment of our natural resources. The Department has adopted several agency-wide objectives which required the engagement of all stakeholders including minorities and urban citizens, many of whom are from underserved and non-traditional populations. In addition, the Department is committed to maintaining a racially and culturally diverse workforce.

In an effort to meet some of these goals and priorities in the areas of diversity, the department employs a special projects coordinator within the Watershed Services Unit dedicated to minority outreach and involvement. Recent examples of these efforts include the participation of the Office of Secretary on the taskforce and staffing of the 2006 Maryland Senate Bill 350, "Task Force on Minority Participation in the Environmental Community." In addition, the office will be serving as the project manager for a professional services contract with the University of Maryland Eastern Shore conducting a Historical, Cultural and Environmental Assessment of African Americans in the Lower Eastern Shore of Maryland.

Maryland Department of the Environment

The Department was formed to protect and preserve the State's environmental resources. It restores Maryland's environment and safeguards the environmental health of Maryland citizens. Duties encompass enforcement and regulation, long-term planning and research, and technical assistance to industry and communities in their efforts to take responsibility for pollution, waste disposal, and emergency spills of waste or oil.

The Department's four key programs are Air and Radiation Management; Technical and Regulatory Services; Waste Management; and Water Management. In 1995, the Department's Chesapeake Bay Program transferred to the Department of Natural Resources, and the Water Resources Administration, a direct descendant of the Water Pollution Control Commission, moved from the Department of Natural Resources to the

Department of the Environment (Chapter 488, Acts of 1995). Since all departmental programs affect the health of Chesapeake Bay, the Department of the Environment continues to play a crucial role in all initiatives to restore the Bay.

The Department also has an office of Environmental Justice, which works in the interest of minority, underserved, and economically disadvantaged communities that may be disproportionately at risk of negative environmental impacts. MDE's recruitment strategy involves outreach to traditionally black colleges and universities, and providing internship opportunities for minorities. MDE is currently serving on the Task Force on Minority Participation in the Environment, established in 2006 by Senate Bill 350.

Costs

Nothing herein requires the Partners (EPA, UMES, MCBP, MDNR, and MDE) to obligate or expend funds on behalf of the goals, objectives, or responsibilities set forth in this MOU, or give rise to a claim for compensation for services performed for the state or federal government. Any obligation or expenditure of funds by the Partners in furtherance of the goals of this MOU must be consistent with existing legal authorities. As required by the Anti-Deficiency Act, obligations and expenditures of funds by the Partners will be subject to the availability of appropriations and the Partners' discretion in making budgetary determinations. Nothing in this MOU provides any Partner with an exception from state or Federal policies for competing financial assistance agreements and contracts.

General Provisions

- Publications
 - The results of joint research and engagement activities will be published in the form of co-publications, subject to the policies of the Partners
 - Mutual exchange of all other publications produced by the Partners will be encouraged.
- Consultation and evaluation
 - There will be periodic consultation, as deemed necessary, between the Partners to facilitate execution of the program.
 - The Partners assume the responsibility for providing funds for their personnel to participate in the evaluation and periodic reporting of the activities developed under this agreement.
- Contingency agreements
 - Each institution is expected to provide a contingency plan for the protection and evacuation of guest faculty, staff and students in case of any national emergency, or natural disaster.

- Proposals for cooperative and collaborative work under this MOU are to be submitted through the designated liaison officers to assure conformity with the Purpose, Goals and Objectives of this MOU:
 - **EPA** – Maryland Coastal Bays Program Project Officer, Office of State and Watershed Partnerships, Water Protection Division
 - **UMES** – Director, Living Marine Resources Cooperative Science Center
 - **MCBP** - Executive Director
 - **MDNR** - Special Projects Coordinator for Education, Chesapeake Bay Policy and Growth Management Division
 - **MDE** - Environmental Justice Administrator, Office of the Secretary

Renewal, Amendment, Termination and Communication

- This agreement will remain in effect for a period of five (5) years, with the option of extending it, and with a yearly review from the date this agreement is signed with the understanding that it may be revised by mutual consultation and written consent of the partners.
- Amendments to the agreement may be initiated by any Partner and may be made with the written consent of all Partners. Amendments may be made through an exchange of letters.
- Any issues not mentioned in this MOU may be resolved through mutual agreement among the designated liaison officers with the approval of their respective Partner Institution Official.
- The agreement may be terminated by any Partner with 60 days written notification to all other Partners. Termination of the MOU will terminate any obligation to the parties pursuant to the terms of this MOU.
- Any notice, request, or communication given, made or sent by any Partner institution pursuant to this MOU is to be in writing and deemed to have been duly given, made, or sent to the party to which it is addressed when delivered by hand, mail, e-mail, or fax to such other party to the following Partner Institution Officials:

**Director
Water Protection Division (3WP10)
US Environmental Protection Agency
1650 Arch Street
Philadelphia, PA 19103**

**Vice President for Academic Affairs
University of Maryland Eastern Shore
Princess Anne, MD 21853**

**Executive Director
Maryland Coastal Bays Program
9919 Stephen Decatur Highway, Suite 4
Ocean City, MD 21842**

**Secretary
Maryland Department of Natural Resources
580 Taylor Avenue
Tawes State Office Building
Annapolis, MD 21401**

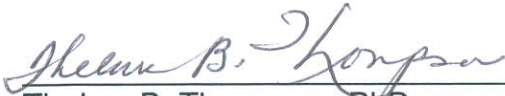
**Secretary
Maryland Department of the Environment
1800 Washington Blvd
Baltimore, MD 21230**

Signed:



Donald S. Welsh
Regional Administrator
United States Environmental Protection Agency
Mid-Atlantic Region

June 19, 2007
DATE



Thelma B. Thompson, PhD.
President
University of Maryland Eastern Shore

6/19/2007
DATE



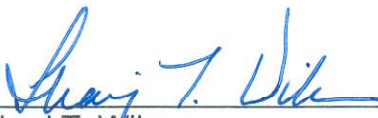
David Blazer
Executive Director
Maryland Coastal Bays Program

6/19/07
DATE



John R. Griffin
Secretary
Maryland Department of Natural Resources

6/19/07
DATE



Shari T. Wilson
Secretary
Maryland Department of the Environment

6/14/07
DATE